

**Al. housing Pressure Transmitters
with LCD window
a/w process flange MDF
optional relay switches & RS485
Model EDN.816**

Aluminum housing for industrial version
LCD window with a bar graph and a white back light
made of all st. steel for wetted parts
KOSHA, Ex d IIC T6 will be certified by December, 2025



General features

- Pressure Transmitters assembled with various flanges called by MDF
- Pressure range from 0...1.6 bar to 0...250 bar
- Assembled with process flange according to the standard
- Zero point, range adjustable
- Switch function, 2 switches
- RS485 digital communication

Application area

- Petroleum and chemical industry
- Water supply and water treatment plant
- Hydraulic and pneumatic control systems
- Hydro and nuclear power application
- General process industry

General specification

Pressure ranges

0...1.6 bar to 0...250 bar

Accuracy

± 0.5% FS

included Linearity+Hysteresis+Repeatability

Overpressure

1.3 X pressure range

Output type

4...20 mA, 2-wire system

0...10 V, 3-wire system

0...5 V, 3-wire system

1...5 V, 3-wire system

0.5...4.5 V, 3-wire system

Power supply

Available power: DC 12...30V

Temperature range

Operating: -20...80 °C

Ambient: -20...60 °C

Storage: -10...80 °C

Temperature compensating range: 0...60 °C

Thermal error

Zero thermal error: ±0.75%FS @ 25 °C (typ.)

Span thermal error: ±0.75%FS @ 25 °C (typ.)

Isolation

> 100MΩ at 100 VDC

Electrical connection

Flameproof



series EDN.816 for hygienic application

Display

LCD, 4 1/2 - digit
-1999...9999

Background

Light white

Materials

Wetted parts:

St. steel 316L

Body:

Aluminum alloy

Pressure connection

According to DIN 1092-1
According to ASME B16.5
According to JIS

Special material of diaphragm [Options]

- Teflon / PTFE coated
- Hastelloy C22 or Hastelloy C276
- Monel
- Titanium
- Tantalum

Optional special functions

- Switches, 2 contacts
- RS485 digital communication

Selectable pressure units

bar, mbar, MPa, kPa, psi, kg/cm2, mmH2O, inH2O
mmHg, inHg, torr, atm

Operation

Pressure range, zero point adjustment,
characteristic curve and damping rate are adjustable
on the device



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Technical specifications

Input pressure range

Norminal pressure:
0...1.6 bar up to 0...250 bar

Permissible static pressure:
1.3 x pressure range

Output signal / Supply

Current:
2-wire 4...20mA Vs=12...30 VDC

Voltage:
3-wire 0...10V Vs=12...30 VDC
0...5V
1...5V
0.5...4.5V

Performance

¹Accuracy: $\leq \pm 0.3\% \text{FSO @ } 25^\circ\text{C}$
¹ accuracy according to IEC 60770 - limit point adjustment including non-linearity, hysteresis as well as repeatability

Permissible load / R_L
Current: 2-wire, $R_L \text{ max} = [(V_s - V_s \text{ min}) / 0.02 \text{A}] \Omega$
Voltage: 3-wire, $R_L \text{ min} = 10 \text{k}\Omega$

Influence effects:
Supply: 0.05%FSO/10V
Longterm stability: $\leq \pm 0.5\% \text{FS} / \text{year}$
Response time: $< 5 \text{ms}$

Thermal effects (Offset and Span) / Permissible temperatures

FS thermal error: $\pm 0.75\% \text{FS @ } 25^\circ\text{C}$, typical
Zero thermal error: $\pm 0.75\% \text{FS @ } 25^\circ\text{C}$, typical
Operating temperature: $-20 \dots 80^\circ\text{C}$
Compensated tempearture: $0 \dots 60^\circ\text{C}$

Electrical protection

Electromagnetic compatibility:
Emission and immunity according to
EN 61326-2-3:20B CCISPR II Group 1, Class A
EN IEC 61000-3-2:2019

Insulation: the transmitter is grounded via
the process connection

Mechanical stability

Vibration: No change at 10 g RMS (20...2000) Hz
Shock: 0.1 g (1m/s) Max.

Miscellaneous

Current consumption
Signal output current max. 25mA

Current
4...20mA, 2-wire system
Signal output voltage max. 7mA

Voltage:
0...10V, 3-wire system
0...5V, 3-wire system
1...5V, 3-wire system
0.5...4.5V, 3-wire system

EMC Test report for CE conformance

- EN 61326-2-3:2013 / Class A
- EN 61326-2-3: 2013 / IEC 61326-1:2012

Special features

- Protection against reverse polarity connections ($\pm 40 \text{VDC}$).
- High Noise Immunity Performance against Electrical Fast Transient (EFT) noise.
- High Precision against variations in ambient temperature. ($\pm 1.3\%$ in $-20 \dots 70^\circ\text{C}$).
- Wide pressure operating range. 30% lower than the minimum and 30% higher than the maximum.
- Protection against instantaneous surge voltage.
- Durable design for severe vibration.

Electrical connecting cable gland

- IP66
- Materials: Brass with nickel plated
- Cable outer : 3.0...6.0 mm

Materials

Pressure port: stainless steel 316L
Housing / body: Aluminum alloy
Sensor diaphragm: stainless steel 316L
Wetted parts: stainless steel 316L

Ordering information

Model code

EDN.816 · [] · [] · [] · [] · B [] · []

Output signal

O1	4...20mA / 2-wire system
O2	0...10V / 3-wire system
O3	0...5V / 3-wire system
O4	1...5V / 3-wire system
O6	0.5...4.5V / 3-wire system

2 relay switches

2SW	2 switches, relays
No.	without

RS485 digital communication

485	2 switches, relays
No.	without

Process connection

Flange standard DIN 1092-1	See tables on page 4
Flange standard ASME B16.5	
Flange standard JIS	

Pressure range code, unit bar

Code	Range
R26	0...1.6
R28	0...2.5
R30	0...4
R32	0...6
R33	0...10
R35	0...16
R37	0...25
R39	0...40
R41	0...60
R43	0...100
R45	0...160
R47	0...250
RYY	Others on request

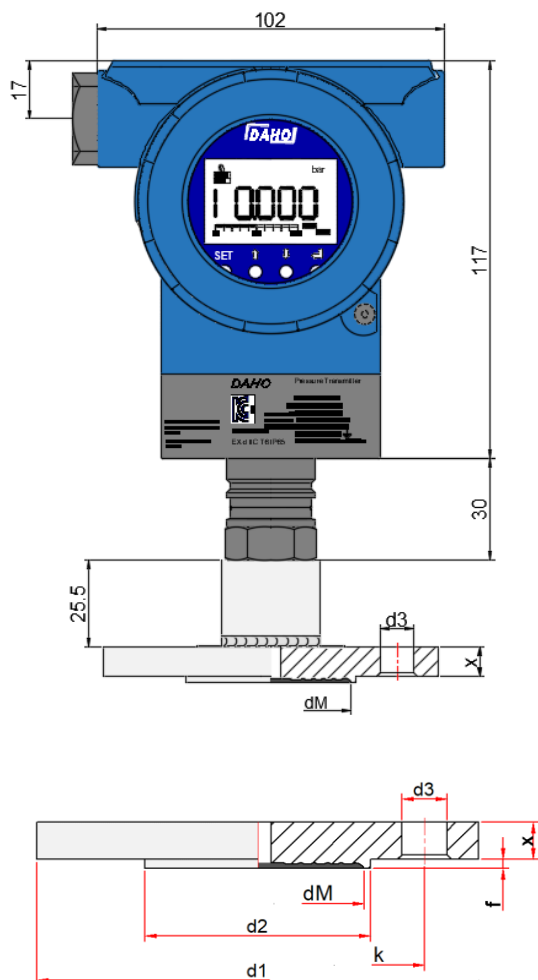
Option code

Code	Description
NO	"USE NO OIL" for Oxygen application
TP	St. steel tag plate, 60 x 20 x 0.5t
DMCC	Manufacture calibration certificate
KC	KOLAS Ilac-MRA calibration certificate
CC	Certificate of conformance / origin

How to order

EDN.816.O1.BR35 aw MDF, DN25 PN160 according to DIN 1092-1

EDN.816, 4...20mA, 0...16 bar aw MBF, DN25 PN160 according to DIN 1092-1,



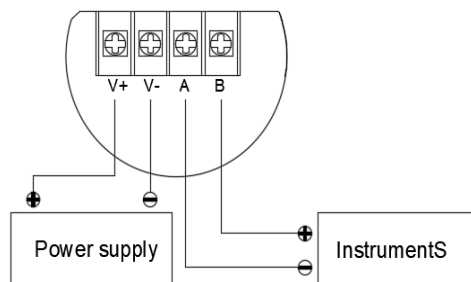
DIN 1092-1																	
DN	PN	d1	d2	d3	dM	f	k	x									
25	10/40	115	68	Ø 14 x 4	28	2	85	18									
	63/100	140		Ø 18 x 4			100	24									
	160																
	250								150	Ø 22 x 4	105	28					
	320								160	Ø 26 x 4	115	34					
	400								180	Ø 26 x 4	130	38					
32	10/40	140	78	Ø 18 x 4	34	3	100	18									
40	10/40	150	88	Ø 18 x 4	38		110										
50	25/40	165	102	Ø 22 x 4	57		3	125	20								
	63	180		Ø 26 x 4				135	26								
	100	195		Ø 26 x 8				145	28								
	160									30							
	250					200				150	38						
	320					210				160	42						
	400					235				Ø 30 x 8	180	52					
65	25/40	185	122	Ø 18 x 8	72	3	145	22									
80	10/16	200	138				Ø 22 x 8	84	160	20							
	25/40			71	75						79	89	200	24			
	63														170	28	
	100														180	32	
	160																36
	250																200
100	10/16	63	158	Ø 18 x 8	84		3	180	20								
	25/40	67	162	Ø 22 x 8				190	24								
	63	73		Ø 26 x 8				200	30								
	100	79		Ø 30 x 8				210	36								
	160	83								40							
	250	97								Ø 33 x 8	235	54					

ASME B16.5								
NPS	Class	d1	d2	d3	dM	f	k	x
1"	150	108	50.8	Ø 15.7 x 4	28	1.6	79.2	14.2
	300	124		Ø 19.1 x 4			88.9	17.5
	400/600	124		Ø 25.4 x 4		6.4	101.6	23.9
	900/1500	149.4		Ø 25.4 x 4			108	34.8
	2500	158.8		Ø 25.4 x 4			108	41.5
1 1/2"	150	127	73.2	Ø 15.7 x 4	38	1.6	98.6	17.5
	300	155.4		Ø 22.4 x 4			114.3	20.6
	400/600	155.4		Ø 22.4 x 4		6.4	114.3	28.8
2"	150	152.4	91.9	Ø 19.1 x 4	57	1.6	120.7	19.1
	300	165.1		Ø 19.1 x 8			127	22.4
	400/600	165.1		Ø 19.1 x 8		6.4	127	31.8
	900/1500	215.9		Ø 25.4 x 8			165.1	44.5
	2500	235		Ø 28.4 x 8			171.5	57.2
3"	150	190.5	127	Ø 19.1 x 8	84	1.6	152.4	23.9
	300	209.6		Ø 22.4 x 8			168.1	28.4
	400/600	209.6		Ø 22.4 x 8		6.4	168.1	38.2
	900	241.3		Ø 25.4 x 8			190.5	44.5
	1500	266.7		Ø 31.8 x 8			203.2	54.2
	2500	304.8		Ø 35.1 x 8			228.6	72.9
4"	150	228.6	157.2	Ø 19.1 x 8	84	1.6	190.5	23.9
	300	254		Ø 22.4 x 8			200.2	31.8
	400	254		Ø 22.4 x 8		6.4	200.2	41.5
	600	273.1		Ø 25.4 x 8			215.9	44.5
	900	292.1		Ø 31.8 x 8			234.9	50.8
	1500	311.2		Ø 35.1 x 8			241.3	60.2

Electrical connection Diagram

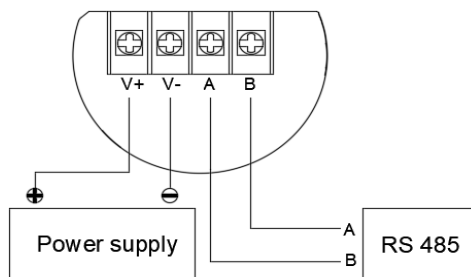
Analog output signal

Pin No.	Wire
V+	+Vcc
V-	-Vcc
B	Signal +
A	Signal -



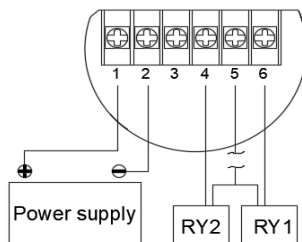
RS485 digital communication

Pin No.	Wire
V+	+Vcc
V-	-Vcc
A	RS 485A
B	RS 485B



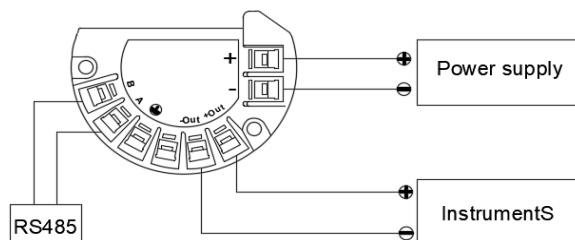
2 relay, switches

Pin No.	Wire
1	+Vcc
2	-Vcc
6	Relay 1
4	Relay 2
5	Relay COM



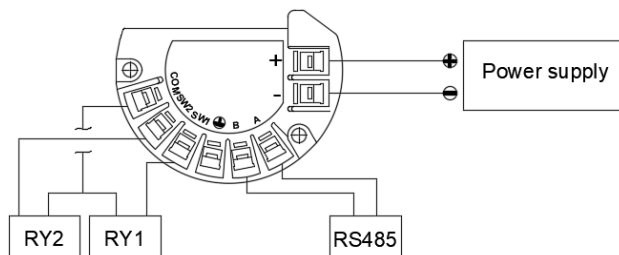
Analog + RS485 digital

Pin No.	Wire
+	+Vcc
-	-Vcc
+Out	+ Signal
-Out	- Signal
A	RS485 A
B	RS485 B



Analog + 2 relay + RS485 digital

Pin No.	Wire
+	+Vcc
-	-Vcc
A	RS 485A
B	RS 485B
SW1	Relay 1
SW2	Relay 2
COM	Relay COM



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